

## THE UNITED STATES PATENT AND TRADEMARK OFFICE

dicant:

MIKE E. HAMERLY

serial No.:

09/771,757

Filed:

01/29/2001

For:

OPTICAL SWITCH BASED ON

**ROTATING VERTICAL** 

**MICRO-MIRROR** 

Group Art Unit:

2874

Docket No.

56132USA9A

Commissioner for Patents Washington, D.C. 20231

LCERTIFY THAT, ON JUNE 28, 2001, THIS PAPER IS BEING DEPOSITED WITH THE U.S. POSTAL SERVICE AS FIRST CLASS MAIN AN ENVELOPE ADDRESSED TO THE COMMISSIONER FOR PATEN

Washington D.C. 20231.

### INFORMATION DISCLOSURE STATEMENT

In compliance with the duty imposed by 37 C.F.R. 1.56, and in accordance with C.F.R. sections 1.97 et. seq., the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. Consideration of each of the documents listed on the attached 1449 form(s) is respectfully requested. The filing of this information disclosure statement shall not be construed to be an admission that the information cited in the statement is, or is construed to be, prior art to the present application. Pursuant to the provisions of M.P.E.P. 609, Applicants further request that a copy of the 1449 form(s), marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

No fee is deemed necessary for the entry of this Information Disclosure Statement. Should any fee be required, the Commissioner is authorized to charge our Deposit Account No. 06-0029 and notify us of the same.

Respectfully Submitted,

Dated: June 28, 2001

MIKE E. HAMERLY et al.

By:

Karl G. Schwappach, #35,786 **FAEGRE & BENSON LLP** 2200 Wells Fargo Center 90 South Seventh Street Minneapolis, MN 55402-3901

612/766-7773



Atty. Docket No.

Served No.

56132USA9A

Applicant

INFORMATION DISCLOSURE

STATEMENT BY APPLICANT

MIKE E. HAMERLY et al.

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Burt	4,975,729	12/04/1990	Gordon	355	1	
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Bust	5,528,710	06/18/1996	Burton et al.	383	16	
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# OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

. See pages 5-6 section entitled "Other Prior Art - Non Patent Documents

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

M2:20396298.01 references are not present in the case.

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1449 U.S. Department of Commerce Atty. Docket No. Serial No. Patent and Trademark Office 56132USA9A 09/771,757 Applicant INFORMATION DISCLOSURE STATEMENT BY APPLICANT MIKE E. HAMERLY et al Filing Date Groub 01/29/2001

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But	5,862,003	01/19/1999	Saif et al.	354	871	
BWW	5,872,880	02/16/1999	Maynard	385	مرع	
BNH	5,877,889	03/02/1999	Um et al.	385	295	
But	5,878,177	03/02/1999	Karasan et al.	385	17	
SNA	5,886,811	03/23/1999	Min	385	291	
But	5,900,998	05/04/1999	Kim et al.	359	871	
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BNH	5,914,801	06/22/1999	Dhuler et al.	359	230	
Bud	5,914,803	06/22/1999	Hwang et al.	359	291	
But	5,923,798	07/13/1999	Aksyuk et al.	385	19	
Rub	5,936,757	08/10/1999	Kim et al.	359	224	
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	0 932 066 A1	07/28/1999	EP.			Yes
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	96/07945	03/14/1996	WO			Yes
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Form PTO-1449 U.S. Department of Commerce
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	97/06617	02/20/1997				Yes
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	00/25160	05/04/2000	WO-			-Yes_
	00/52835	09/08/2000	WO			Yes
-	00/75710A2	12/14/2000	WO			Yes
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U.S. Department of Commerce Atty. Docket No. Serial No. Patent and Trademark Office 56132USA9A 09/771,757 Applicant INFORMATION DISCLOSURE STATEMENT BY APPLICANT MIKE E. HAMERLY et at: Filing Date Group 01/29/2001 2874° OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Koester et al., "MUMPS Design Handbook, Revision 5.0", Cronos Integrated Microsystems (2000) Mossman et al., "New Reflective Display Based on Total Internal Reflection in Prismatic Microstructures". Lin et al., "Lightwave Micromachines for Optical Crossconnects". Zou et al., "Optical Properties of Surface Micromachined Mirrors with Etch Holes", 8 Journal of Microelectrical Systems 506-513 (1999) (Abstract). Kopka et al., "Coupled U-Shaped Cantilever Actuators for 1 x 4 and 2 x 2 Ontical Fibre Switches", 10 J. Micromech. Microeng. 260-264 (2000). Reid et al., "Automated Assembly of Flip-Up Micromirrors", 66 Sensors and Actuators. <del>-292-298 (1998).</del> Riza et al., "Digitally Controlled Fault-Tolerant Multiwavelength Programmable Fiber-Optic Attenuator Using a Two-Dimensional Digital Micromirror Device", 24 Optics Letters 282-284 (1999). Kolesar et al., "Implementation of Micromirror Arrays as Optical Binary Switches and Amplitude Modulators", 332 Thin Solid Films 1-9 (1998). R. Syms, "Operation of Surface-tension Self-Assembled 3D Micro-Ontomechanical Torsion Mirror Scanner", 35 Electronics Letters 1157-1158 (1999). Lin et al., "High-Density Micromachined Polygon Optical Crossconnects Exploiting Network Connection-Symmetry", 10 IEEE Photonics Technology Letters 1425-1427 (1998).Lee et al., "Free-Space Fiber-Optic Switches Based on MEMS Vertical Torsion Mirrors", 17 Journal of Lightwave Technology 7-13 (1999). Yasseen et al., "A Rotary Electrostatic Micromotor 1 x 8 Optical Switch" 5 IEEE Journal of Selected Topics in Quantum Electronics 26-32 (1999). Toshiyoshi et al., "Electromagnetic Torsion Mirrors for Self-Aligned Fiber-Optic Crossconnectors by Silicon Micromachining", 5 IEEE Journal of Selected Topics in Quantum Electronics 10-17 (1999). Ford et al., "Wavelength Add-Drop Switching Using Tilting Micromirrors", 17 Journal of Lightwave Technology 904-911 (1999). Aksyuk et al., "Low Insertion Loss Packaged and Fiber Connectorized SI Surface Micromachined Reflective Optical Switch", Solid State Sensor and Actuator Workshop pp. 79-82 (1998). EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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